890GM Pro3

AMD 890GX + SB850 Chipsets

ASRock
www.asrock.com

Product Brief

- Supports Exclusive ASRock UCC Chip - Unlock CPU Core feature
- Six-Core CPU Ready
- ASRock DuraCap (2.5 x longer life time), 100% Japan-made high-quality Conductive Polymer Capacitors
- Supports CPU up to 140W
- Supports Dual Channel DDR3 1800(OC)
- Supports ATI™ Hybrid CrossFireX™
- Integrated AMD Radeon HD 4290 graphics, DX10.1 Class iGPU, Shader Model 4.1, Max. shared memory 512MB
- Built-in 128MB DDR3 1333/1200MHz SidePort Memory
- Multi VGA Output options: D-Sub, DVI-D and HDMI
- 1 x eSATAIII Connector, 5 x SATA3 6.0 Gb/s connector, 1 x USB 3.0 Port, 2 x IEEE1394 Ports
- ErP/EuP Ready
- Supports ASRock Instant Boot, Instant Flash, OC DNA, OC Tuner, IES
- 7.1 CH HD Audio with Content Protection, DAC with 110dB dynamic range (VIA® VT2020 Audio Codec with QSound), Premium Blu-ray audio support
- Free Bundle: CyberLink DVD Suite - OEM and Trial; Creative Sound Blaster X-Fi MB - Trial

The specification is subject to change without notice. The brand and product names are trademarks of their respective companies. Any configuration other than original product specification is not guaranteed.

Detail Specification

Platform	- Micro ATX Form Factor: 9.6-in x 9.0-in, 24.4 cm x 22.9 cm - All Solid Capacitor design (100% Japan-made high-quality Conductive Polymer Capacitors)
CPU	- Support for Socket AM3 processors: AMD Phenom™ II X4 / X3 / X2 (except 920 / 940) / Athlon II X4 / X3 / X2 / Sempron processors - Six-Core CPU Ready - Supports UCC feature (Unlock CPU Core) - V4 + 1 Power Phase Design - Supports CPU up to 140W - Supports AMD's Cool 'n' Quiet Technology - FSB 2600 MHz (5.2 GT/s) - Supports Untied Overclocking Technology - Supports Hyper-Transport 3.0 (HT 3.0) Technology
Chipset	- Northbridge: AMD 890GX - Southbridge: AMD SB850
Memory	- Dual Channel DDR3 memory technology - 4 x DDR3 DIMM slots - Supports DDR3 1800(OC)/1600(OC)/1333/1066/800 non-ECC, un-buffered memory - Max. capacity of system memory: 16GB
Expansion Slot	- 1 x PCI Express 2.0 x16 slot (blue @ x16 mode) - 1 x PCI Express 2.0 x1 slot - 2 x PCI slots - Supports ATI™ Hybrid CrossFireX™
Graphics	- Integrated AMD Radeon HD 4290 graphics - DX10.1 class iGPU, Shader Model 4.1 - Max. shared memory 512MB - Built-in 128MB DDR3 1333/1200MHz SidePort Memory - Multi VGA Output options: D-Sub, DVI-D and HDMI - Supports HDMI Technology with max. resolution up to 1920x1200 (1080P) - Supports Dual-link DVI with max. resolution up to 2560x1600 @ 75Hz - Supports D-Sub with max. resolution up to 2048x1536 @ 85Hz - Supports HDCP function with DVI and HDMI ports - Supports Full HD 1080p Blu-ray (BD) / HD-DVD playback with DVI and HDMI ports
Audio	- 7.1 CH HD Audio with Content Protection - DAC with 110dB dynamic range (VIA® VT2020 Audio Codec) - Premium Blu-ray audio support
LAN	- PCIE x1 Gigabit LAN 10/100/1000 Mb/s - Realtek RTL8111E - Supports Wake-On-LAN - Supports LAN Cable Detection
Rear Panel I/O	I/O Panel - 1 x PS/2 Keyboard Port - 1 x VGA/D-Sub Port - 1 x VGA/DVI-D Port - 1 x HDMI Port - 1 x Optical SPDIF Out Port - 5 x Ready-to-Use USB 2.0 Ports - 1 x eSATAIII Connector - 1 x Ready-to-Use USB 3.0 Port - 1 x RJ-45 LAN Port with LED (ACT/LINK LED and SPEED LED) - 1 x IEEE 1394 Port - HD Audio Jack: Rear Speaker / Central / Bass / Line in / Front Speaker / Microphone
USB 3.0	- 1 x USB 3.0 port by Fresco FL1000G, supports USB 3.0 up to 5Gb/s
SATA3	- 5 x SATA3 6.0 Gb/s connectors, support RAID (RAID 0, RAID 1, JBOD, RAID 0+1 and RAID 5), NCQ, AHCI and "Hot Plug" functions
Connector	- 5 x SATA3 6.0 Gb/s connectors - 1 x IR header - 1 x COM port header - 1 x IEEE 1394 header - CPU/Chassis/Power FAN connector - 24 pin ATX power connector - 4 pin 12V power connector - Front panel audio connector - 4 x USB 2.0 headers (support 8 USB 2.0 ports)
BIOS Feature	- 8Mb AMI Legal BIOS - Supports "Plug and Play" - ACPI 1.1 Compliance Wake Up Events - Supports jumperfree - SMBIOS 2.3.1 Support - CPU VID, VCCM, NB Voltage Multi-adjustment
Support CD	- Drivers, Utilities, AntiVirus Software (Trial Version), AMD OverDrive™ Utility, AMD Live! Explorer, AMD Fusion, ASRock Software Suite (CyberLink DVD Suite - OEM and Trial; Creative Sound Blaster X-Fi MB - Trial)

Unique Feature	- ASRock OC Tuner
	- Intelligent Energy Saver
	- Instant Boot
	- ASRock Instant Flash
	- ASRock OC DNA
	- Hybrid Booster:
	  - CPU Frequency Stepless Control
	  - ASRock U-COP
	  - Boot Failure Guard (B.F.G.)

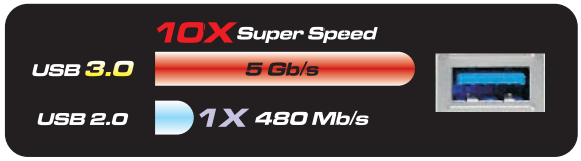
Hardware Monitor	- CPU Temperature Sensing - Chassis Temperature Sensing - CPU/Chassis/Power Fan Tachometer - CPU Quiet Fan - Voltage Monitoring: +12V, +5V, +3.3V, Vcore
OS	- Microsoft® Windows® 7 / 7 64-bit / Vista™ / Vista™ 64-bit / XP / XP Media Center / XP 64-bit compliant
Certifications	- FCC, CE, WHQL - ErP/EuP Ready (ErP/EuP ready power supply is required)
Accessories	- Quick Installation Guide, Support CD, I/O Shield - 4 x SATA data cables (optional)

890GM Pro3

AMD 890GX + SB850 Chipsets

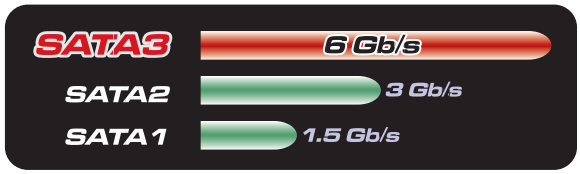
ASRock
www.asrock.com

USB3.0



USB3.0, the world's best-known computer peripheral interface once again receives a major revamp to stay current with today's most demands for connectivity bandwidth. Delivering data transfer rates up to ten times faster than USB 2.0 with the optimized power efficiency, USB 3.0 promises a major leap forward in transfer speeds and capability.

SATA3



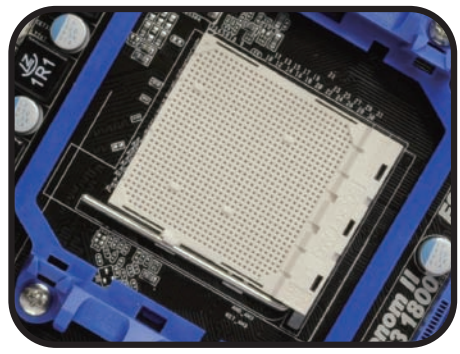
SATA3, the world's fastest interface, enables to maximum your hard disk drive performance. With the new SATA Revision 3.0 technology, ASRock ensures you the incredible data transfer rate up to 6Gb/s speed over SATA2.

eSATA3

The above rear I/O layout is just an example and it may be different from the actual layout.

eSATA3, the much-anticipated interface, can not only provide the faster transfer speed up to 6 Gb/s but also the hassle-free computing environment.

Six-Core CPU Ready



890GM Pro3

AMD 890GX + SB850 Chipsets

ASRock
www.asrock.com

ASRock UCC (Unlock CPU Core)

World's First AMD 890GX Chipset Motherboard
Supports Unlock CPU Core

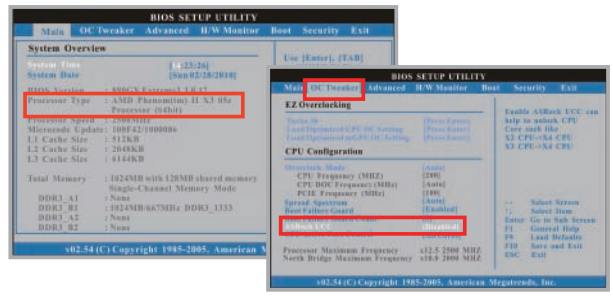
With ASRock unique UCC chip onboard, one simple click in BIOS can unlock CPU core to enjoy an instant performance boost.

Step 1

Press “F2 or DEL” to enter the BIOS.

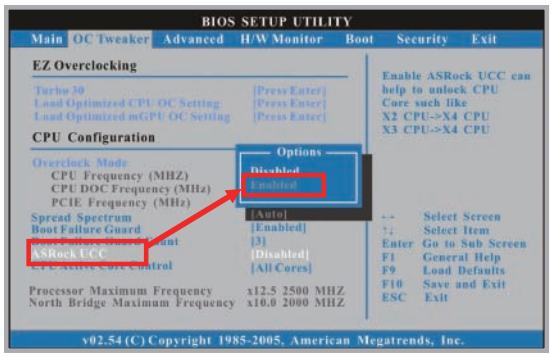
Step 2

Choose the “OC Tweaker” page and “ASRock UCC” option!


BIOS SETUP UTILITY
Main OC Tweaker Advanced H/W Monitor Boot Security Exit
System Overview
BIOS SETUP UTILITY
Main OC Tweaker Advanced H/W Monitor Boot Security Exit
EZ Overclocking
CPU Configuration

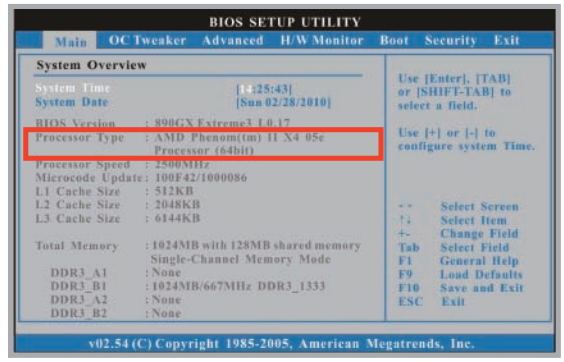
Step 3

- “ASRock UCC” set to Enabled.
- Press “F10” to save change and exit.



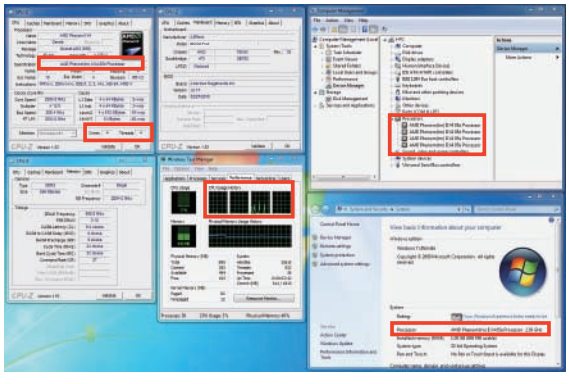
Step 4

- Press “F2 or DEL” to enter the BIOS.
- Processor Type unlock to “AMD Phenom II X4 05e” under “Main” page.


BIOS SETUP UTILITY
Main OC Tweaker Advanced H/W Monitor Boot Security Exit
System Overview
Processor Type : AMD Phenom(tm) II X4 05e Processor (64bit)
v02.54 (C) Copyright 1985-2005, American Megatrends, Inc.

Step 5

CPU Information Under OS



Step 6

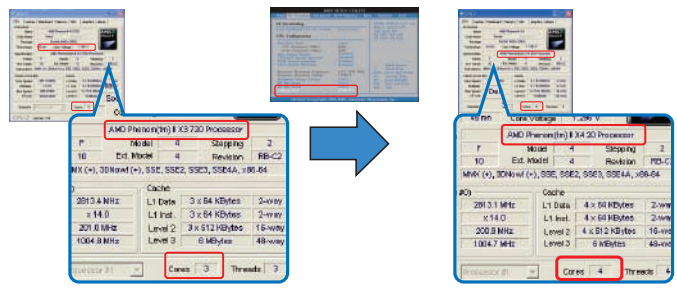
Before and After UCC

AMD Phenom II X4 705e X3 core → **X4 core**

Before -
UCC not enabled, Cores: 3

Simply enables UCC function in BIOS

After -
UCC enabled, Cores: 4



890GM Pro3

AMD 890GX + SB850 Chipsets

ASRock
www.asrock.com

ATI Radeon® HD4290

DirectX 10.1 Onboard Graphics

Key features of DirectX 10.1 include an updated shader model, improved anti-aliasing support, more flexible data access, and tighter specifications for better applicationcompatibility.

DirectX 10.1 Anti-Aliasing

DirectX 10 –Standard MSAA:Foliage edges do not get anti-aliased –causes shimmering and crawling when they move

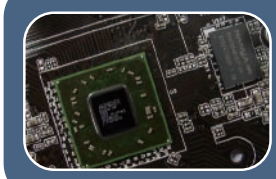
DirectX 10.1 –Alpha Test MSAA:Foliage edges are smoothed and anti-aliased –offers significant image quality improvement

Features	DirectX® 10	DirectX® 10.1
Shader Model	4	4.1
Separate per-MRT blend modes	No	Yes
Pixel Coverage Masks	No	Yes
Sample Pattern Selection	No	Yes
Cube Map Arrays	No	Yes
Gather4	No	Yes
VS Inputs	16	32
Blending	INT8, FP16/32	INT8/16, FP16/32
Filtering	FP16	FP32

DDR3 1333 128MB Side Port Memory

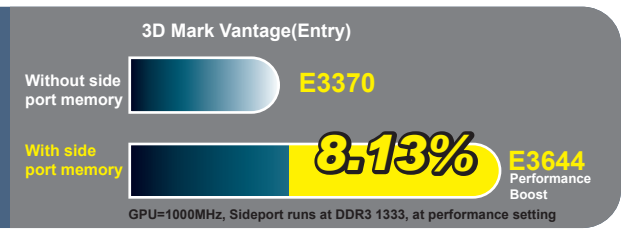
Boost performance up to 8.13% which is rarely seen on other 890GX boards

DDR3 1333 128MB Side Port Memory



ASRock 890GX MB with DDR3 1333 128MB Side Port Memory

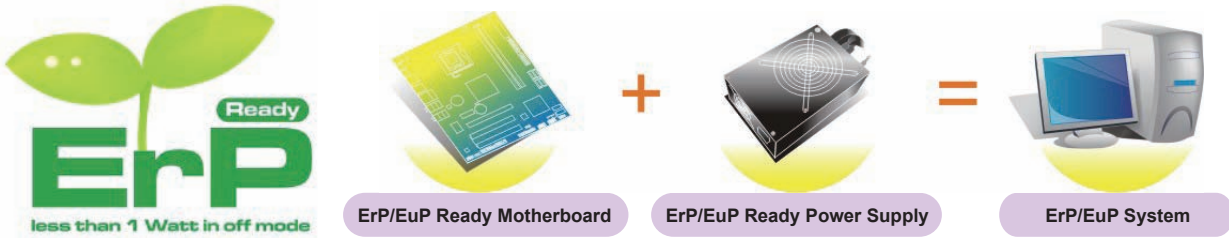
Up to 8.13%
Performance Boost



890GM Pro3

AMD 890GX + SB850 Chipsets

ASRock
www.asrock.com



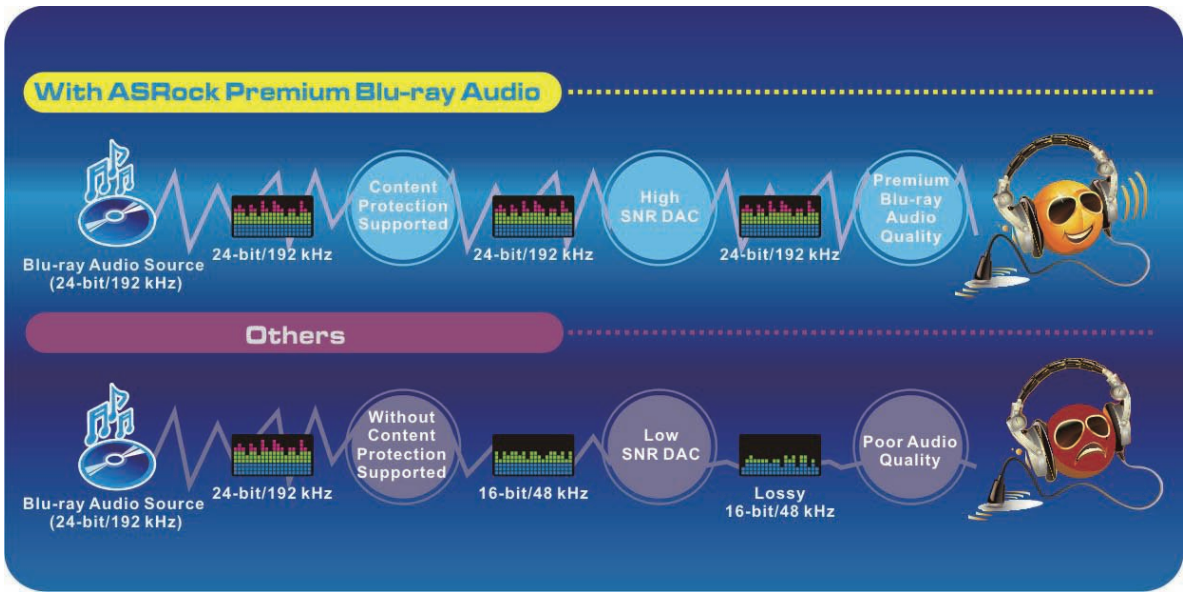
What is ErP/EuP?

ErP/EuP, stands for Energy Using Product, was a provision regulated by European Union to define the power consumption for the completed system. With the great quantity and the popularly using of the electrical products nowadays and the continuously increasing of the electrical products categories in the following 20 to 30 years, European Union decided to establish an effective strategy to solve the energy consumption problem. That is, according to ErP/EuP, the total AC power of the completed system shall be under 1.00W in off mode condition.

Premium Blu-ray Audio

Premium Blu-ray Audio, an outstanding technology developed on ASRock motherboard, provides the excellent audio output of 24-bit/192 kHz with its respective Blu-ray DRM compatible driver/software. With Content Protection-Support and High SNR DAC, the Blu-ray entertainments can be played in a high quality of 24-bit/192KHz. In other words, if you are using a device without the Blu-ray Audio support, the audio quality will be downgraded to 16-bit/48kHz like a regular CD quality. To deliver the best possible sound solution for today's most demanding users, ASRock Premium Blu-ray Audio motherboard is the best choice for users who are particularly desired to enjoy the pure HD audio. ASRock users are able to take full advantages of our Blu-ray Audio motherboards. Choose ASRock, choose Pure HD audio!

Why ASRock?



* SNR: Signal-to-Noise Ratio.

True Blu-ray

Full HD 1080p
Blu-ray(BD)/HD-DVD playback

Premium Blu-ray Audio
Support 24-bit / 192 kHz

Blu-ray video + Blu-ray audio

(Integrated AMD Radeon HD 4290 graphics, supports DX10.1)

Supporting Blu-ray Full HD 1080p playback and Premium Blu-ray audio with 24-bit / 192KHz sampling rate in 7.1 channel

890GM Pro3

AMD 890GX + SB850 Chipsets

ASRock
www.asrock.com

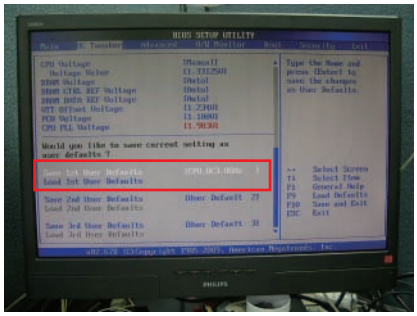
OC DNA

Save your OC settings as a profile and share with friends. Try OC DNA now!

OC DNA Instruction

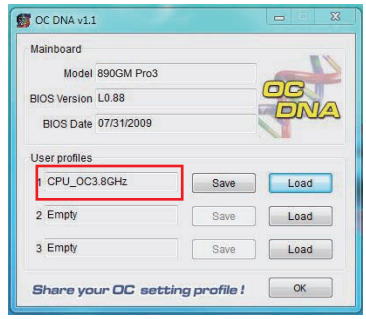
Step 1

Save your BIOS OC settings as User Default in BIOS OC Tweaker menu. (For example: we name this User Default setting as “CPU_OC3.8GHz”)



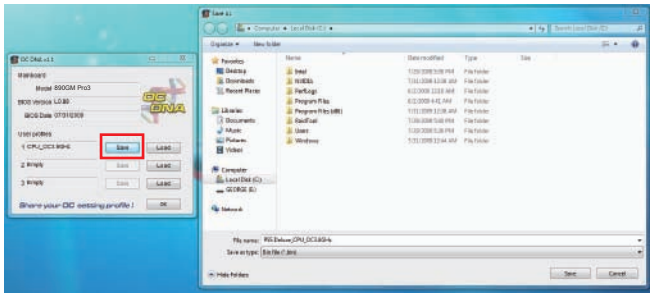
Step 2

Execute ASRock OC DNA under OS, you will find “CPU_OC3.8GHz” as User Profile 1.



Step 3

Press “Save” button to save the “CPU_OC3.8GHz” OC settings as a profile.

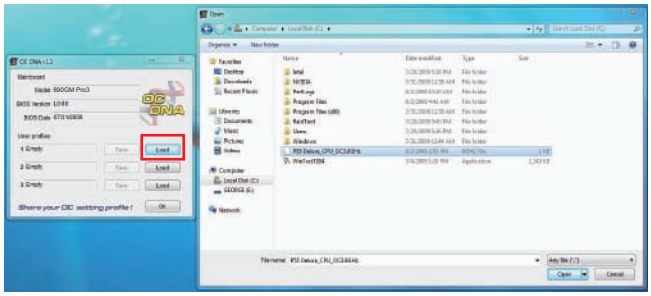


Step 4

Send the “CPU_OC3.8GHz” profile to other friends.

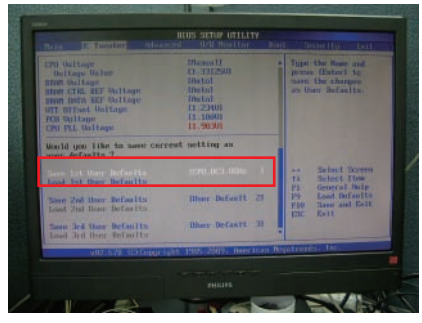
Step 5

When the friend receives your “CPU_OC3.8GHz” profile, he can press “Load” to load the “CPU_OC3.8GHz” profile in OC DNA.



Step 6

After that, the friend can enter into BIOS OC Tweaker menu to load the “CPU_OC3.8GHz” profile as his BIOS OC settings.



Now, you have successfully share your OC setting profile with your friends.

*The OC DNA works only when users use the same motherboard and BIOS version.

890GM Pro3

AMD 890GX + SB850 Chipsets

ASRock
www.asrock.com

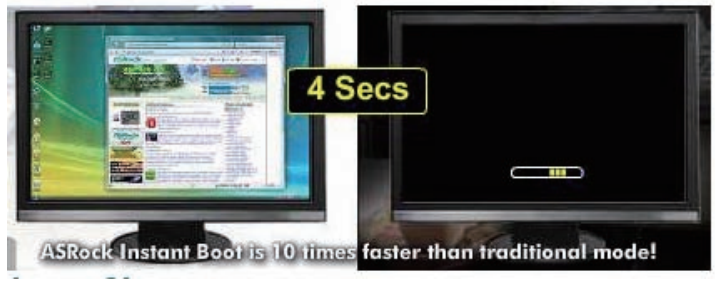
ASRock Instant Boot

ASRock Instant Boot is a new feature invented exclusively by ASRock. It can boot up system in an amazing speed, which is 10 times faster than traditional boot up. For home users or office PC users, ASRock Instant Boot can also guarantee a clean Windows OS, and consumed less power! For details:
http://www.asrock.com/feature/InstantBoot/index.asp

* This function is applicable ONLY to single user that does not secure ID and Password to their systems.
* The boot up time depends on the hardware configuration.

10 Times Faster, Only 4 Secs to Boot Up to Windows!

ASRock YouTube
http://tw.youtube.com/watch?v=BucljXZVxXo



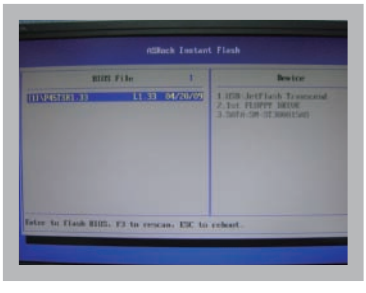
ASRock Instant Flash

ASRock Instant Flash is an exclusive and the most user-friendly BIOS flash utility developed by ASRock. It is embedded in Flash ROM which is used to update the system BIOS without having to enter operating systems like MS-DOS or Windows.

Instant BIOS Flash
Instant Flash BIOS Utility

Features

Once executing ASRock Instant Flash, the utility will automatically detect all devices such as USB, hard disk or even floppy drive to find the exact BIOS for your system. Instead of giving you all BIOS in your devices, the Instant Flash just list BIOS versions that apply to your motherboard model only. For example, if you have many different BIOS of different motherboards saved in your devices, but you just need to flash your P45 motherboard, the Instant Flash will just list the P45 BIOS versions for you. This unique function allows you to easily select the suitable BIOS version instead of browsing through all data.



Instant Flash just list BIOS versions that apply to your motherboard model.

Simple!

Click and start Flashing!

Quick!

890GM Pro3

AMD 890GX + SB850 Chipsets

ASRock
www.asrock.com

FREE Bundle
ASRock Software Suite
CyberLink Power2Go 6.1 LE OEM
CyberLink MediaShow 4.1 SE OEM
CyberLink PowerDVD 8.0 DTS Trial
CyberLink PowerDirector 8.0 Trial
CyberLink PowerBackup 2.5 Trial
Creative Sound Blaster X-Fi MB Trial

CyberLink

X-Fi XTREME FIDELITY

EAX ADVANCED HD 4.0

CyberLink Power2Go 6.1 LE OEM

Power2Go 6 lets you burn and backup videos, photos, music and data onto Blu-ray Discs and DVDs.

CyberLink MediaShow 4.1 SE OEM

Photo and video management software MediaShow edits videos and photos instantly, creates slideshow, and allows publishing directly to YouTube and Flickr.

CyberLink PowerDVD 8.0 DTS Trial

World-renowned PowerDVD 8 DTS delivers outstanding DVD movie playback quality on your PC.

CyberLink PowerDirector 8.0 Trial

PowerDirector - Video Editing software – edits high-definition videos including AVCHD, allows output to PSP iPod and Blu-ray Disc.

CyberLink PowerBackup 2.5 Trial

PowerBackup backups valuable data on your PC.

Creative Sound Blaster X-Fi MB Trial

The Sound Blaster X-Fi MB solution provides premium audio quality, effects and features for PC systems equipped with onboard audio.

For gamers, the EAX® ADVANCED HD 4.0, with its state-of-the-art Multi-Environment rendering and reverb modelling, delivers a much more realistic and immersive 3D gaming experience than your motherboard audio ever will.